

## Humphreys County Economic Development Council

### 2019 Governor's Investment in Vocational Education (GIVE)

Humphreys County – Drive to 55 – Industrial Process Control Technology Career Pathway

LEAD ENTITY: Humphreys County Economic Development Council

FISCAL AGENT: Nashville State Community College

IN PARTNERSHIP WITH:

Humphreys County Economic Development Council, Nashville State Community College, Humphreys County Public Schools CTE Program, Northern Middle Tennessee Workforce Board, Jones Plastic and Engineering LLC, ConAgra Food, Scepter Inc., The Chemours Company, Accurate Energetic Systems LLC, and A.L.P. Lighting Components Inc.

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Funding Requested: \$783,583.20



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## ABSTRACT

The Industrial Process Control Technology Program (IPCT) at Nashville State Community College (NSCC) has led the way in building lasting partnerships and implementing programs through anticipating future trends in industry and education. The IPCT Program anticipated and implemented dual enrollment and articulation agreement in area High Schools and, in cooperation with local industry, has implemented an apprenticeship program which interweaves work-based learning and the classroom.

With nationally recognized curriculum developed by The North American Process Technology Association and The National Center for Construction Education and Research, in conjunction with training equipment requested through this grant, the IPCT Program will continue to provide highly qualified and credentialed workers to meet our local industry need.

The Humphreys County Industrial Board (HCIB) has become one of the largest advising boards throughout the Tennessee Board of Regents with 11 active industry members. With the help of this grant, and the equipment provided through it, the IPCT, NSCC, and all the partners involved will exceed the "Drive to 55" mandate while creating pathways in our region and ensure qualified credentialed workers are available for the existing and expanding industries of Tennessee.

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## Demonstration of Program Need

In 2019, the Tennessee Higher Education Commission (THEC) Supply & Demand Report states there are on average 9,125 annual openings in the “Production Design, Operations, and Maintenance Pathway” with an annual average growth of 0.8% statewide. Their median salary across the state for industrial machinery mechanics, one of the main careers the Pathway IPCT will promote, is \$46,990. Jobs4TN shows there are approximately 28 manufacturing establishments (employers) in the county. Almost every one of these employers is reporting an inability to find the skilled Industrial Process Control workers they need. According to the Supply & Demand report for this pathway, there is a statewide need for 9,125 workers in this career field with a total supply of just 1,034. The 2018 LEAP Report also lists the Northern Middle Tennessee Region, where Humphreys County sits, as one of only three areas across the state needing First-Line Supervisors of Mechanics, Installers, & Repairers. Jobs4TN shows 1,139 (ranked 9<sup>th</sup>) Production Occupations and 1,043 (ranked 11<sup>th</sup>) Installation, Maintenance, and Repair Occupations available in that same region. According to the LEAP Report, Welding is one of the few occupations listed as having significant vacancies in all 9 workforce regions of the state. The Pathway IPCT will increase the rate and number of graduates from Humphreys County High Schools and NSCC-H to fill these current manufacturing job openings. Awarding this grant will greatly impact the availability of skilled workers in Humphreys County and the surrounding region now and into the future.

The Massachusetts Institute of Technology’s (MIT) Living Wage Calculator shows lists the living wage for a single adult as \$10.11/hour in Humphreys County. When used to determine an annual salary (hourly rate x 40 hours a week x 52 weeks a year), this comes to \$21,028.80/year.

Below are some of the main careers according to the (THEC) Supply & Demand Report and Jobs4TN that Pathway IPCT students will be able to enter as a result of the educational foundation built by the GIVE grant with the statewide median salaries for each occupation:

- |   |          |
|---|----------|
| • Welders, Cutters, and Welder Fitters    | \$32,240 |
| • Industrial Machinery Mechanics:         | \$46,990 |
| • Maintenance Workers, Machinery:         | \$47,480 |
| • Chemical Plant & System Operators:      | \$47,010 |
| • Chemical Equipment Operators & Tenders: | \$56,630 |

Some of these are listed because Humphreys County has a strong tradition of chemical production with three of the top ten largest employers being chemical manufacturers according to the Tennessee Department of Economic and Community Development (TECD). Four of these career options provide more than double the living wage necessary to earn a living in Humphreys County while the other is more than 150% above that mark. Each of these positions requires moderate-to-long term on-the-job training experience. By providing more options for training in these fields, the numerous chemical companies and advanced manufacturers in the county will be able to meet their labor shortages while paving the way for a higher quality of life for Humphreys County residents. High schools and post-secondary schools are challenged to provide up-to-date training and guidance with expensive state-of-the-art equipment needed for training the future manufacturing workforce.

Employers of Chemical Process Operators in Humphreys County are already having difficulty finding properly trained workers and will continue to suffer as Chemours Company estimates that they alone will need 200 process operators, in addition to 100 maintenance personnel, over the next ten years to fulfill expansion and attrition through retirement. Each trade and skill selected for analysis is required for local industry to ensure continued operation.

Investigation through interviewing local industry also found that local industry is finding it difficult, at best, to find qualified maintenance personnel. Additionally, Chemours Company, Prince Corporation, and Occidental Chemical Corporation require that all incumbent maintenance personnel are certified through The National Center for Education and Research (NCCER) curriculum and national assessment.

As detailed in the localized data, the need for process technicians and maintenance personnel is immediate in Humphreys and surrounding counties. The IPCT Program at NSCC-H has grown 50% over the past two years with the implementation of the NCCER requirement for maintenance employees at several area industries and with TBR recommendations, we now require IPCT graduates take two NCCER national assessments in their field of study which gives IPCT accountability and credibility.

## **Program Plan**

### **Program Overview**

Programs that will be expanded and staff that will be added through this grant will be focused on filling Humphreys and the surrounding region's high-demand, high-skill trade and technical occupations. These new resources will directly fulfill Drive to 55 objectives and address several Workforce and Economic Development objectives of local TNECD ThreeStar and Asset-Based priorities.

The foundation of these efforts will be expansion of the successful Industrial Process Control Technology Program (IPCT) at Nashville State Community College (NSCC-H) which has grown 50% over the past two years with the implementation of the NCCER requirement for maintenance employees at several area industries. This recent program growth illustrates the

effective alignment of locally delivered skills training/higher education and local employer workforce needs with 82 new employees that have been prepared for high-wage employment with Chemours, Jones, Wacker, AES, Scepter, Prince, Valero, Dal-Tile, Nemak, and Hancock Tire.

Nashville State along with the Tennessee Board of Regents (TBR) now require IPCT graduates to successfully complete two NCCER national assessments in their field of study which gives graduates and the program increased IPCT accountability. Nashville State Humphreys County campus has also embedded three Technical Certificates into the IPCT Program 1) Process Operator, 2) Industrial Electrical and Instrumentation Technician, and 3) Industrial Maintenance Mechanic, which are all transferable to an Associates of Applied Science degree. **These aligned curricula provide students and graduates multiple career pathways that include work-based learning and apprenticeship opportunities on their way to high-skilled and high-wage jobs with local industries.**

This grant will assist in the purchase of much needed training equipment for NSCC-H and the Humphreys County School System to ensure industry and program objectives are fully met. It will also allow high school students to graduate with a Technical Certificate. All training equipment requested in this grant is career and skills-gap oriented and will address vital objectives required for task mastery and cooperative educational opportunities provided through student interaction with instructors and alliance provided SMEs. Equipment will be purchased to expand current lab offerings at the NSCC-H Campus, Waverly Central High School, and McEwen High School. The requested equipment will provide real world hands-on training that operators and maintenance personnel will encounter in the field. This equipment also

couples with the NCCER curriculum in the gap disciplines, as well as many others within the maintenance and processing trades.

Automation Studio 6.3 complete package w/extended software support will be upgraded with Simtronics 7.0 and networking NSCC-H Campus with the addition of both Waverly Central and McEwen High Schools. New Welding equipment will also be added at McEwen High School to create a realistic industrial process system that facilitates training and practice in field activities regularly undertaken by process operators and maintenance personnel. The equipment will be supported by a curriculum of 120 exercises which include various maintenance and operator tasks. These skill-based learning opportunities will give students a career pathway to all three Technical Certificates as well as an Associates of Applied Science degree in IPCT in either Process Technology concentration or Maintenance Technology concentration at the local Nashville State – Humphreys County campus.

GIVE Grant funding will also be used to create new career awareness and STEM-related programs for middle and high school students in Waverly and McEwen. These activities will include summer STEM institutes that are focused on manufacturing careers and industrial maintenance and process technology and STEM-related involvement of NSCC in the Humphreys County School System at all levels. Science fairs for middle and high-school students will also be sponsored through this grant proposal in the Humphreys and, potentially, Houston Counties to increase interest in both STEM and industrial process control. Middle and high school faculty members will be engaged in these activities and afforded the opportunity to learn more about manufacturing and STEM career opportunities. GIVE grant funding will help Humphreys and

Houston County leaders to meet the grant objective of connecting local industry, NSCC, K-12, and the community concerning process control technology and STEM related disciplines.

Project funding through the GIVE Grant will also provide new resources for Nashville State to provide a designated full-time Instructor tasked with the responsibility to teach at both high schools, provide oversight of the grant project, assure that all objectives are accomplished and become an integral part of high school to community college to industry continuum for work-based learning in the NSCC service area. This position will support the current Nashville State IPCT Coordinator's efforts and provide valuable intangible benefits such as industrial and educational mission alignment, along with increased community and local governmental involvement. The collective impact of the Nashville State – Humphreys County IPCT program will be enhanced and expanded through close collaboration with the Humphreys County Economic Development Council, the Northern Middle Tennessee Workforce Board, area industries and the Humphreys, Houston and surrounding county governments which will further develop cooperative, on-the-job, and apprentice training opportunities in Northern Middle, Southern Middle and Northwest Tennessee regions.

Finally, the GIVE grant will also support the development of a stronger Regional Industrial Alliance tasked with the mission to develop a diverse, qualified IPCT talent pool to meet current and future workforce needs in each underserved regions of Middle, Southern and Northwest Tennessee. The mission and goals for the Regional Industrial Alliance (RIA) will be: 1) Develop standards for IPCT program that assure quality, highly skilled, graduates and continually evaluate conformance to those standards, 2) Continually evaluate and improve the IPCT curriculum to meet the needs of industry and educational partners, 3) Participate in activities that advance

IPCT and STEM career awareness in the community, and 4) Continually promote the IPCT program resulting in increased partnerships with educational institutions, industry, government, and community.

The Work-Based Learning Model that will under-gird this project will engage the Humphreys County School System (K-12) and NSCC by allowing RIA partners to participate in any or all aspects of the IPCT program through Five Levels of support to include: 1) Providing SME's (Subject Matter Experts) for guest lectures and K-12 events, 2) Offering cooperative education opportunities such as job shadowing which provides no more than 30 hours of training per semester, 3) Providing On-the-Job Training opportunities such as internships and summer work programs designed surrounding IPCT objectives which would provide 30 hours or more of training per semester, 4) Providing direct financial support to the IPCT program, and 5) Providing direct support through participation of the NSCC/HCIB Apprenticeship Program. Alliance partners will be encouraged to participate at any level that can be provided. Partnership activities will range from supplying SMEs (Level One) for lecture to full apprenticeship programs (Level Five); however, voting rights and chair positions will be dependent upon the level of involvement.

GIVE Grant funding will allow the new Instructor and IPCT Program Coordinator to work in unison with Regional Industry Alliance members, K-12 system leaders, local governments in the region, economic development boards, workforce development organizations, and the communities to provide highly skilled and credentialed employees who have achieved the competency in the identified trade areas and gaps, as well as both cognitive and literal apprentice, cooperative, and on-the-job training opportunities utilizing the Work-Based training

model. These opportunities are the key to student retention leading to program completion and placement that sustain the qualified and credentialed worker pipeline for area industries that directly accomplish the goals of the “Drive to 55” and GIVE initiatives. High school graduates alone will not achieve the goal set before the state; however, new career and technical career pathways created through this GIVE funded project, along with gap scholarships provided by NSCC and the Humphreys County 21<sup>st</sup> Century Educational Foundation to both adult and dual enrollment students will provide equipment, student and employer support to ensure the skills gaps in the NSCC service area are filled in a strategic manner.

### Program Timeline

The project timeline is broken into four phases. Each phase and activities are as follows:

#### *Phase I (Foundation) – August 2019 – March 2020*

1) Purchase of equipment and software for NSCC-H, Waverly Central High School, and McEwen High School; 2) Hire Full Time Instructor; 3) Change Nashville State Advisory Board into new Regional Industrial Alliance; 4) Administer academic achievement perception survey to students who have attended the IPCT program between the Fall 2016 semester to present; 5) Survey existing HCIB industry partners for their perceptions of IPCT students; 6) Plan summer camp programs for K-12; and 7) Form subcommittees to evaluate curriculum, enhance partnerships, expand IPCT influence in the K-12 system.

#### *Phase II (Enhancement) – March – July 2020*

1) Incorporate new equipment and software into existing curriculum through exercises directly tied to program objectives such as: Introductory to Craft skills, Basic Communication Skills, and Basic Employability Skills which specifically covers work ethics and soft

skills; 2) Adopt new curriculum, content or changes as expressed through the Alliance and approved through proper channels (i.e. curriculum committee); 3) Explore 1+1 options with TCAT and partnership opportunities with other Community Colleges; 4) Re-tool IPCT exit exam; and 5) Installation completion of new equipment at NSCC, Waverly Central High School, and McEwen High School.

#### *Phase III (Expansion) – August – December 2020*

1) IPCT Dual Enrollment classes added at WCHS and MHS for Process Operator Technical Certificate; 2) Subcommittees formed to expand and implement work-based learning initiatives (Cooperative, On-the-Job Training, Apprenticeships); 3) Increase the number of partnering companies in the Alliance; 4) Review of student academic achievement perception survey (to be conducted yearly); and 5) Facilitate K-12 events (STEM Awareness, Science Fairs)

#### *Phase IV (Evaluation) – January 2022 to End of Grant*

1) Review and analyze Student Academic Achievement Perception Surveys; 2) Review and analyze Alliance partner surveys; 3) Review and analyze IPCT Exit Exams; and 4) Review and recommend IPCT Curriculum needed updates.

### **Program Evaluation and Measurements**

Five empirical measurements will be utilized to assess objectives to ensure the goals of the GIVE Grant and closing of the skills gaps are achieved:

1. Perceived student achievement survey will allow the IPCT and Alliance to understand how the students view the learning experience. GOAL: 90% Student Satisfaction

2. Alliance survey will allow the IPCT and the Alliance members to understand how the partnering industries view the level of competence of the student and confidence in the IPCT program. GOAL: 90% Industry Satisfaction
3. IPCT Exit Exams would provide a picture of what the IPCT students are learning and retaining. GOAL: 80% Passage Rate
4. The number of post-secondary students that successfully complete their degrees at NSCC-H in a single year will provide a measure to help see the Pathway IPCT role in meeting the Drive to 55. GOAL: 20 Graduates per Year
5. The number of high school students that enroll in dual credit coursework or take advantage of work-based learning opportunities will show community interest in the Pathway IPCT. GOAL: 50 High School Students enrolled per Year

These five measures can be used to better understand and facilitate any changes or needs within the ICPT program, as well as Work-based, Apprenticeship and Cooperative learning elements.

### **Project Governance and Accountability Plan**

The Humphreys County Economic Development Board, in conjunction with NSCC and the Alliance members will guide the curriculum, with the aid of NSCC representation, to conform to their training needs and meet Tennessee Board of Regents guidelines. Each subcommittee formed in The Alliance will govern its responsible area through guidance from the Alliance Chair and Co-Chairs.

NSCC will act as the Fiscal Agent for the project to govern and account for all monetary aspects of this grant. The college will provide oversight concerning purchase of equipment and hiring of the new Full-Time Instructor assigned to the project. A job description will be

established through the employment process of Nashville State. Selection of the Instructor will be accomplished with input from HCEDC, NSCC, K-12, The Northern Middle Tennessee Workforce Board, and Alliance leaders directly involved with the project.

The Instructor will be responsible for project implementation to include oversight of all training and work placements and reporting the measurement of the grant objectives. Completion of grant project objectives will be measured through qualitative and quantitative processes outlined in the Project Evaluation and Measurement section of this proposal. The Instructor will report directly to the NSCC-H Director; however, this staff person will work closely with the IPCT Program Coordinator and Alliance officers and members.

### **Strength of Partnerships**

In 2017, Humphreys and Perry County were chosen by Complete Tennessee Leadership Institute (CTLI) for Best Practices: Humphreys County for the IPCT apprenticeship program and Perry County for the work that the Ayers Foundation had accomplished in providing students with career guidance counseling. Chemours Company, the largest employer in the HCIB, has been a level five partner of the IPCT Program and the Nashville State – Humphreys County campus for several years. Chemours supports the IPCT program financially through the provision of work-based training opportunities, job shadowing, and apprenticeships for students enrolled in the various aspects of the IPCT program. This company's leadership in bringing the NCCER industry approved curriculum to the IPCT program has been immeasurable. Hood Container Industries, and Albemarle have been level two partners of the IPCT Program for over eight years. Each of these industries have been instrumental in the IPCT job shadowing program's success. Occidental Chemical Corporation has been a level four member of the IPCT Program for five

years and has provided direct financial support to the IPCT program for the past five years.

Prince Corporation has been a level two partner of the IPCT Program for over eight years through their support by job-shadowing and requiring only IPCT graduates to apply for Process Operator job openings as well as requiring any employee wanting a maintenance position take at a minimum of four mechanical classes offered through various certificate and degree options. Accurate Energetic Systems, Jones Plastic and Engineering, and ConAgra Foods have been level five members of the IPCT Program for three years through their apprenticeship program. Their membership on the HCIB has been enlightening and encouraging to the efforts of the board.

The Northern Middle Tennessee Workforce Investment Board, local county governments, NSCC, and the Humphreys County School System all desire to ensure the current economic educational and workforce development program infrastructure is not only maintained but expanded to include new industry in our area. It is the governmental partnerships which can lead to future funding opportunities to the Alliance and students alike. Currently, The Humphreys County 21<sup>st</sup> Century Educational Foundation, Workforce Essentials and the Northern Middle Tennessee Workforce Investment Board provide students with stipend funding that allow them to continue with their education. These funds help meet day to day expenses, tuition shortfalls, and even cover textbooks and supplies. These important workforce development partner organizations assist with tuition for dual enrollment opportunities to ensure WIA eligible students requesting enrollment in training can be served. The Humphreys County Government and NSCC have provided major funding for the IPCT program and are all committed to its mission, growth and on-going success.

The success of the IPCT Career Pathways Program rests on the dedication and specialized skills held by each of the collaborative partners. The attached Memorandum of Understanding details each of these partners' benefits, roles, and responsibilities. The Accountability Plan also defines the role of each of the membership, leadership structure, and roles for individuals within the Pathways IPCT Alliance. The attached letters of commitment detail the support this program has within local industry.

The Humphreys County Economic Development is the lead entity while NSCC-H will serve as the fiscal agent for the grant. Its IPCT Program Coordinator/Industrial Liaison will be the Treasurer for the project as detailed in the Accountability Plan. NSCC-H in coordination with the Humphreys County School System will also develop, implement, and teach the dual enrollment classes in Industrial Maintenance/Mechatronics, Advanced Manufacturing, Machine Tool Technology and Welding in the high schools. The multiple industry partners, acting as a part of the Alliance, will guide the program and curriculum while offering various work-based learning opportunities.

### **Budget Plan**

Please refer to Appendix C-GIVE Grant Budget for the total project budget and Appendix D-GIVE Grant Budget Line Item Details for a complete explanation of expenditures through this grant project. All line item expenditures demonstrate clear alignment between this funding request and grant activities and provide complete details of how each line item of the budget supports the goals and planned outcomes of this GIVE Grant program. Indirect cost expenditures will be limited to 8% of the total grant budget per Uniform Administrative Requirements and (OMB) streamlined guidance.

## Program Sustainability

For the last 20 years, Nashville State Community College, industry and the community partners have provided financial support to establish and grow all existing programs at the Humphreys County Campus. Additionally, the Humphreys County 21<sup>st</sup> Century Educational Foundation, which was organized during the initial construction of this campus, has provided funding for student scholarship and NSCC has provided GAP Scholarship Assistance for Dual Enrollment.

For the last 14 years, Nashville State Community College and local industry partners have created and grown the IPCT Program, including donation and purchases for training equipment, science laboratories and student wages through apprenticeships. This program has also received non-monetary support from industry for job shadowing, Manufacturing Awareness presentations, and other partnership events. These long-term relationships have created and maintained effective communication and resource sharing that have supported demonstrated program and student successes. One of the requirements of the GIVE Grant Program is to explain how all program partners will maintain communication and provide resources beyond the 30-month period. These activities in Humphreys County will include:

- Enhance K-12 Industry Alliance with dual enrollment and certificate programs
- Maintain GIVE Grant Program equipment
- Facilitate Industrial Alliance Meetings
- Encourage Industry partners to continue to fund Work-Based Learning
- Maintain relationship with Northern Middle Tennessee Workforce Board to co-enroll youth and adult participants to participate in WIOA and work-based learning activities and provide job placement support through the American Job Centers in multiple counties.
- Based on program enrollment, continued funding for Instructor and Lab Technician positions to continue to offer the programs.

The Humphreys County Economic Development will also continue their long-standing support for the IPCT Program through sponsorship of Annual Manufacturing Day, coordination of the HR Directors and Industrial Plant Managers quarterly meetings, and partner with Nashville State Community College in sponsorship of STEM science fair programs. Industry partners will continue to provide and fund all their contributing activities including GIVE-developed Work-Based Learning programs beyond the 30-month funding period and continue to identify potential qualified Instructors. Finally, the Humphreys County CTE Program has indicated interest and the potential availability of funding resources to increase faculty and student awareness and provide support for IPCT activities.

### **Economic Status Acknowledgement**

Humphreys County has always enjoyed higher than average wages and per-capita income levels, primarily because of the high-quality and high-wage jobs that have been available in the county. Today, this county is currently ranked as a Tier 3 county in Tennessee's distressed county rankings. All the adjacent rural counties to Humphreys have historically not fared as well. These include Perry, currently designated as Tier 4; Benton, Houston, Carroll, and Henry, which were designated as Tier 3 distressed counties in July of 2019. Through this Best Practice recognition, a strategic partnership was formed that will be leveraged and built upon through this GIVE project. Leaders from Industry, Education, and Government will join Humphreys County in forming and expanding the new Regional Industrial Alliance as a central part of this GIVE Grant project. The long-term objective of this project is to advance Drive to 55 goals to create effective regional workforce development programs and partnerships will be fulfilled through this GIVE Grant proposed project.

## Appendix A

### Complete Tennessee Article

**Divided We Learn**

# As jobs grow hard to fill, businesses join the drive to push rural residents toward college

*Companies need more people with degrees but struggle to find them*

by MATT KRUPNICK

January 28, 2019

*The Hechinger Report is a national nonprofit newsroom that reports on one topic: education. Sign up for [our weekly newsletters](#) to get stories like this delivered directly to your inbox.*

**W**hen the Chemours chemical plant in New Johnsonville, Tennessee, needed workers to maintain its high-tech machinery, it advertised for them as far as 90 miles away in Nashville in one direction and 150 miles away in Memphis on the other.

It still couldn't fill the jobs.

"You just can't find anybody because people don't want to come that far," said Gregory Martz, manager of the facility, which makes a quarter of the nation's supply of titanium dioxide [used in everything from paints to plastics and paper](#).

The problem isn't just that the plant is in a rural town with a population of less than 2,000. It's that [fewer than one in five](#) of adults in the entire surrounding Humphreys County have at least an associate degree, according to census data analyzed by the nonprofit advocacy organization Complete Tennessee.

Educators and policymakers started raising alarms about low levels of college-going among people in places like this after frustration from rural Americans over limited opportunities and incomes spilled over into national politics in 2016.

Now growing demand for college-trained workers has brought a powerful new voice to the chorus: businesses desperate to fill increasingly complex jobs at a time of almost nonexistent unemployment. With worker shortages hitting industries nationwide, their companies — and many states' economies — depend on it.

"No employer wants to locate where it has to bring in outside labor or train its staff from the ground up," [editorialized one newspaper](#) in Tennessee's rural Washington County, which was short-listed for a new factory planned by a South Korean auto parts manufacturer that would have provided 1,000 jobs but that pulled out because of the low proportion of skilled workers available.

**Related:** [The high school grads least likely in America to go to college? Rural ones](#)

As this gap becomes more critical, Tennessee is trying to prod working adults to go back to school. Starting this fall, it extended to all residents its groundbreaking promise of [tuition-free community college](#).



Students at Walker Valley High School in Cleveland, Tennessee, work with machinery in the school's mechatronics lab. Photo: Traction for The Hechinger Report



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Business leaders have joined with elected officials and educators on "completion councils" in a dozen rural counties where the proportion of adults with postsecondary credentials [hovers in the 20 to 25 percent range](#).

"We said, 'Okay, well, we've got to build our own'" employee base, said Martz, who is also former chairman of the Tennessee Chamber of Commerce.

Chemours and nine other area manufacturers have struck a partnership with Nashville State Community College's Humphreys County campus to train and certify factory workers, creating a new employee pipeline from scratch. Graduates, who receive an associate degree in industrial process or mechanical maintenance technology, can expect to earn around \$60,000 annually within a few years, the college and its partners say.

This kind of business-led approach has become a focus of a statewide effort to increase the proportion of Tennesseans with degrees from its current level of about 40 percent — [sixth lowest among the 50 states](#) — to 55 percent by 2025.

And it isn't happening only in Tennessee. The employee shortage, and concern about people having the right skills, is acute in other parts of the country where fewer rural high school graduates and older workers go to college. Illinois, Oklahoma, North Carolina and Florida are among the states looking for solutions.

In Colorado, which is trying to boost the proportion of adults with degrees from [55 to 66 percent](#) by 2025, the challenge is in changing the attitudes of people in areas where there's not a tradition of going to college, said Dan Baer, executive director of the Colorado Department of Higher Education.

**Related: [How one tiny town is battling 'rural brain drain'](#)**

About three-quarters of Colorado jobs will require some education beyond high school by 2020, Baer said.

"Never before have we had a conclusion that the majority of the population should have a postsecondary credential," he said. "Postsecondary has always been for a minority of the workforce. This is a true inflection point."

That's easier said than solved. With jobs of all kinds in good supply, many people don't see a reason to spend time and money getting a degree or certificate — despite the likely eventual financial payoff. Enrollment in Tennessee [has actually declined](#) among adults aged 25 to 64 since 2011.



Walker Valley High School in Cleveland, Tennessee, is surrounded by rolling hills and factories. Photo: Trxlation for The Hechinger Report



Walker Valley High School student Michaela Boggess, 16, hopes to study industrial engineering at the University of Tennessee. Photo: Trxlation for The Hechinger Report

In rural places in particular, educators say, higher education still conjures visions of a four-year campus that pumps out humanities degrees rather than a community or technical college from which graduates can go straight into high-paying positions.

But where generations of rural Americans could once get good jobs with just a high school diploma, employees in many types of industries now need further education.

"In a lot of rural communities, we still have

a lot of work to do to get people to understand" that, said Bill Seymour, president of Cleveland State Community College, which serves rural Tennessee's Bradley and neighboring Meigs counties; only 23 percent of residents in the two-county region have any kind of postsecondary credentials, compared to the national average of 47 percent.

Bradley County's rolling landscape is dotted with examples of the new economy. Major employers include a sprawling Amazon warehouse and a Wacker polysilicon plant, both just a short drive from Walker Valley High School, where students are learning how to contribute to the high-tech manufacturing world.

**Related: Economics, culture and distance conspire to keep rural nonwhites from higher educations**



Walker Valley High School student Jordan Munck, 17, will probably attend a nearby community college for two years before deciding what to do next. Photo: Trilaxion for The Hechinger Report

In the school's mechatronics lab – the term has become a buzzword across manufacturing-heavy Tennessee — students tinker with miniature machinery that flows into an assembly line. After a few supplementary classes at a local technical college, said teacher Alan Bivens, local companies will be clamoring to hire them.

"We have students come out [of high school] able to program these things," Bivens said as students gathered in groups around the devices. "That's a really good thing to have on your resume. There's a lot of opportunity in this

community, but not a big workforce to draw from."

Connecting business and higher education in this way requires colleges and companies alike to transform their way of thinking, said Joe Garcia, a former Colorado lieutenant governor who now leads that state's community college system. Colleges in the state are trying to attract older adults who don't have the skills employers need, but businesses need to tell colleges what those skills are.

"Colleges and the way we market need to change," said Garcia, who also is a former college president. "We need to realize we're not seeking the students we had 40 years ago."

Back in Bradley County, students at Walker Valley High are being encouraged to at least complete two free years at Cleveland State or a technical college. Those who successfully finish Walker's mechatronics program can start college with 12 college credits earned in high school.

**Related: For rural colleges, good vocational teachers are hard to find**

Michaela Boggess, 16, hopes to take her mechatronics skills to the University of Tennessee, about 75 miles away, where she wants to study industrial engineering. Her parents didn't complete college, but they've pushed her to do it.

"I'll probably go for four years, maybe longer," Michaela said of her college plans. After college, she hopes to go into product design or architecture. "Ever since I was little, I've liked to build stuff."

Fellow Walker Valley student Jordan Munck, 17, isn't sure yet about his future. He's been working as an electrician during breaks, he said,

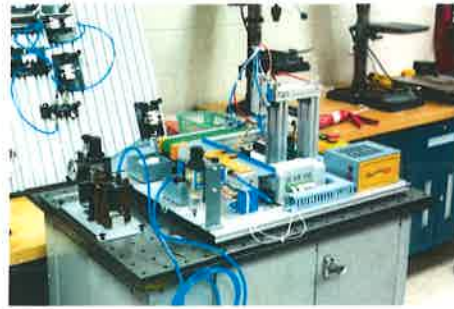
but he'll probably end up taking over his family's real estate business eventually. A baseball scholarship may change his plans, he said, but for now he'll probably go to Cleveland State for a couple of years.

"My parents definitely want me to go for those two free years," he said. "It's not smart not to do that."

*This story about rural college-going was produced by The Hechinger Report, a nonprofit, independent news organization focused on inequality and innovation in education. Sign up for the [Hechinger newsletter](#).*

The Hechinger Report provides in-depth, fact-based, unbiased reporting on education that is free to all readers. But that doesn't mean it's free to produce. Our work keeps educators and the public informed about pressing issues at schools and on campuses throughout the country. We tell the whole story, even when the details are inconvenient. Help us keep doing that.

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Students at Walker Valley High School in Cleveland, Tennessee, can graduate with 12 college credits if they complete the school's mechatronics program. Photo: Trxlation for The Hechinger Report

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#### **Matt Krupnick**

Matt Krupnick is a freelance reporter and editor who contributes regularly to The New York Times and the Hechinger Report. He was a reporter with...  
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## Appendix B

### Skills Gap Analysis (WIA 8 & 12)



# Welders, Cutters, and Welder Fitters

Tennessee

## View Full Report

**Welders, Cutters, and Welder Fitters** - Use hand-welding or flame-cutting equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. [More](#)

Source: This information is based on O\*NET™ data. O\*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.



Outlook  
Stable

Demand  
Medium



Supply  
Medium



Supply  
Balance



PS



2+  
Years

\$45,790

\$30,770

## Advertised Job Skills

### Advertised Detailed Job Skill

### Job Opening Match Count

Welding	<u>238</u>
Mig welding	<u>52</u>
Attention to detail	<u>33</u>
Tig welding	<u>32</u>
Gas metal arc welding (GMAW)	<u>20</u>

Source: Online advertised jobs data

## Top Employers Posting Jobs

### Employer Name

### Job Openings

Arcosa Inc.	<u>61</u>
Express Employment Professionals	<u>5</u>
Luttrell Staffing Group	<u>4</u>
AQUA-CHEM INC	<u>3</u>
Staffmark	<u>3</u>

Source: Online advertised jobs data

## Advertised Tools and Technology

### Advertised Detailed Tool or Technology

### Job Opening Match Count

Welding equipment	<u>53</u>
Metal inert gas (MIG) welders	<u>29</u>
Grinders	<u>23</u>
Calipers	<u>22</u>
Jigs	<u>19</u>

Source: Online advertised jobs data

## Advertised Job Certifications

### Advertised Certification Group

### Job Opening Match Count

Global Academy of Finance and Management (GAFM) Certifications	<u>6</u>
--	----------

Source: Online advertised jobs data

## Supply and Demand

# 1.38

Candidates available per job opening.  
**233 Candidates | 169 Job Openings**

Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

## Typical Wages

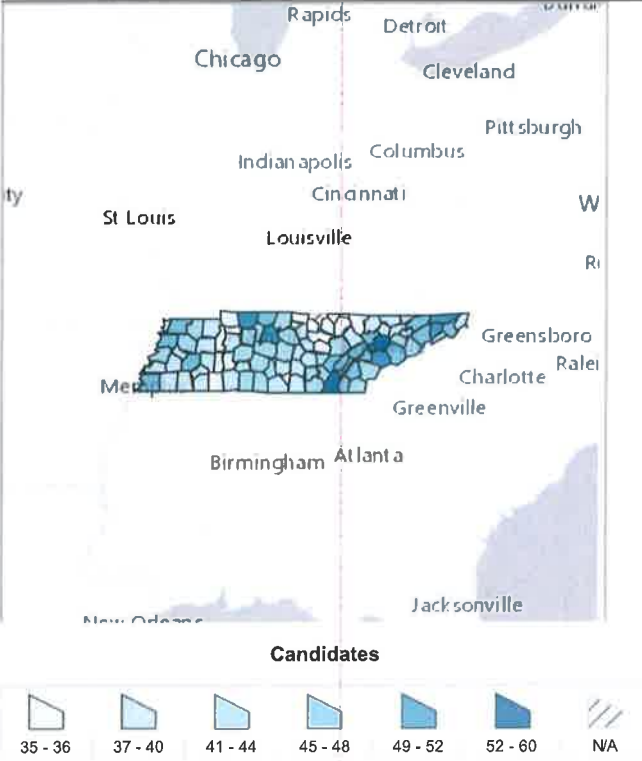
\*Welders, Cutters, Solderers, and Brazers (no data available for Welders, Cutters, and Welder Fitters)

# \$39,220

### Median Annual Wage

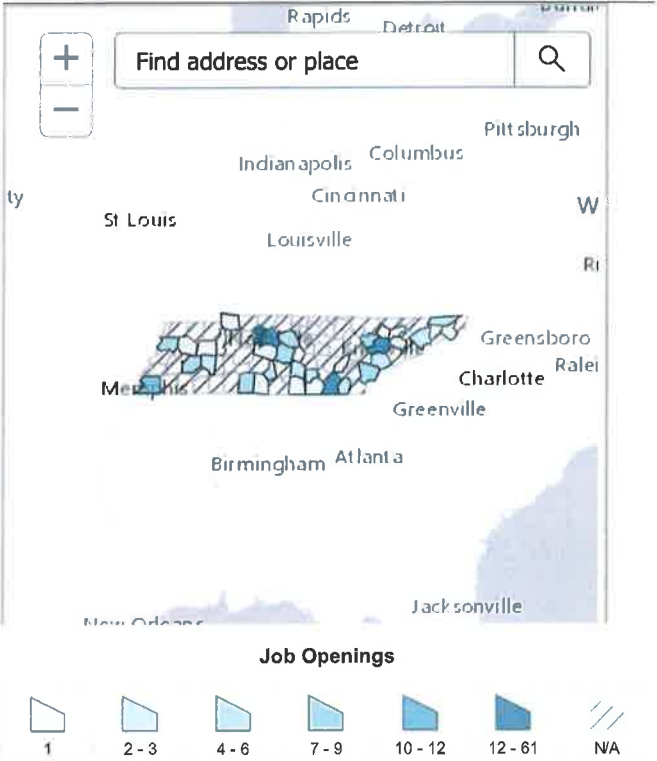
Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Potential Candidates in Tennessee by County



Source: Individuals with active résumés in the workforce system.

Advertised Job Openings in Tennessee by County



Source: Online advertised jobs data

Real-time Wages

**\$32,240**

Average annual wage posted in jobs advertised online on September 3, 2019

Source: Online advertised jobs data

Projected Annual Openings

\*Welders, Cutters, Solderers, and Brazers (no data available for Welders, Cutters, and Welder Fitters)

**840**

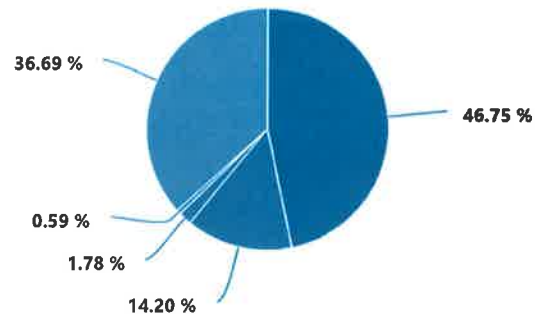
3% of the 32,970 total estimated annual openings in Production occupations.

Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

**Industries by Employment**

Industry Title	Estimated Employment
<u>Architectural and Structural Metals Manufacturing</u>	820
<u>Motor Vehicle Parts Manufacturing</u>	740
<u>Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing</u>	430
<u>Employment Services</u>	320
<u>Agriculture, Construction, and Mining Machinery Manufacturing</u>	260

Source: TN Dept of Labor &amp; Workforce Dev, Div Emp Sec, LMI

**Education Requirements on Advertised Jobs**

- No Minimum Education Requirement
- High School Diploma or Equivalent
- 1 Year of College or a Technical or Vocational School
- 2 Years of College or a Technical or Vocational School
- Not Specified

Source: Department of Education

<https://tnecd.com/county-profiles/>

Compares Humphreys County to the rest of the state

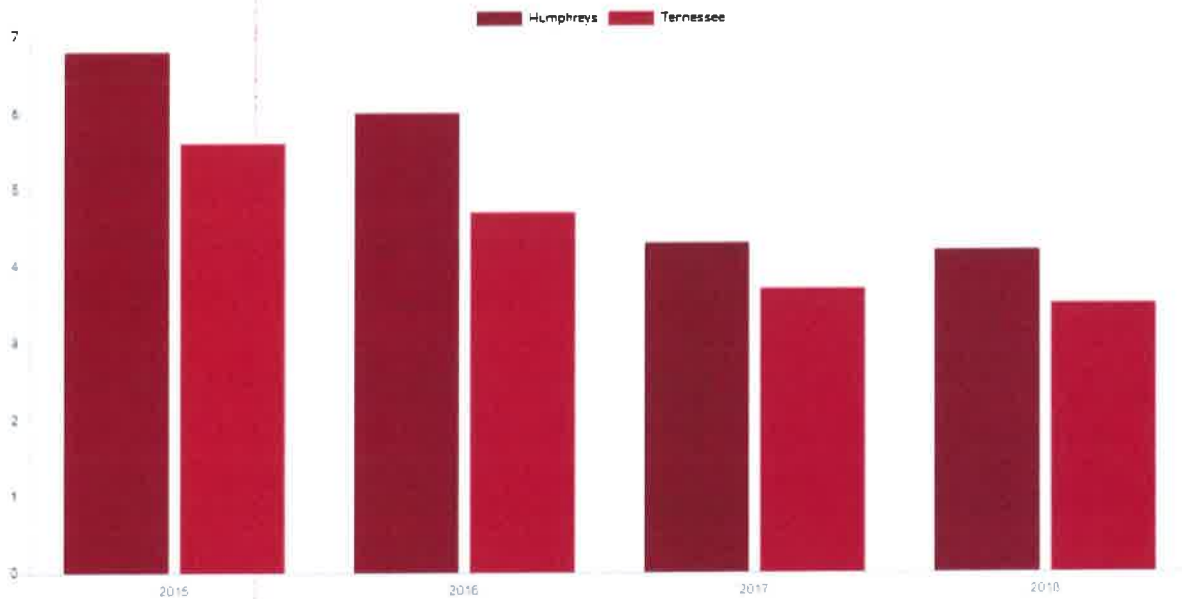
## LABOR FORCE

LABOR FORCE ESTIMATES (2018)	TENNESSEE	HUMPHREYS
Labor Force	3,242,754	9,006
Employment	3,129,078	8,624
Unemployment	113,676	382
Unemployment Rate	3.5%	4.2%

UNEMPLOYMENT RATE*	TENNESSEE	HUMPHREYS
2015	5.6%	6.8%
2016	4.7%	6.0%
2017	3.7%	4.3%
2018	3.5%	4.2%

MONTHLY UNEMPLOYMENT RATE*	CURRENT 12 MONTHS AGO	
Tennessee	3.6%	3.3%
Humphreys	3.5%	3.9%

## UNEMPLOYMENT RATE (BY PERCENTAGE)



Sources:  
Tennessee Department of Labor and Workforce Development (December 2018)  
U.S. Bureau of Labor Statistics

## INDUSTRIES (2019)

INDUSTRY	EMPLOYMENT	ESTABLISHMENTS	AVG. ANNUAL WAGES
Crop and Animal Production	10	4	\$42,135
Mining, Quarrying, and Oil and Gas Extraction	14	1	\$81,244
Utilities	20	2	\$111,423
Construction	392	35	\$58,559
Manufacturing	1,471	29	\$109,455
Wholesale Trade	97	12	\$49,513
Retail Trade	695	60	\$26,964
Transportation and Warehousing	324	14	\$52,558
Information	23	6	\$30,991
Finance and Insurance	125	20	\$63,893
Real Estate and Rental and Leasing	6	5	\$70,126
Professional, Scientific, and Technical Services	202	20	\$74,261
Administrative, Support, Waste Management and Remediation	134	9	\$49,838
Educational Services	15	2	\$40,500
Health Care and Social Assistance	510	24	\$40,472
Arts, Entertainment, and Recreation	28	5	\$24,111
Accommodation and Food Services	531	39	\$15,948
Other Services (except Public Administration)	195	30	\$28,911
Government	1,102	31	\$62,063
<b>Total</b>	<b>6,862</b>	<b>345</b>	<b>\$46,242</b>

UNIQUE OCCUPATIONS*	EMPLOYMENT	LOCATION QUOTIENT*
Chemical Plant and System Operators	58	44.83
Chemical Equipment Operators and Tenders	126	38.08
Plant and System Operators, All Other	23	35.97
Materials Scientists	12	31.19
Funeral Attendants	42	29.69

KEY CLUSTER	TOTAL EMPLOYMENT
Advanced Materials	69
Aerospace & Defense	0
Appliances & Electrical	0
Automotive	0
Business Services	143
Chemicals	922
Distribution & Logistics	488
Film, Music & Entertainment	10
Food & Beverage	10
Healthcare & Medical Devices	0

## TOP EMPLOYERS

TOP COUNTY EMPLOYERS	ESTIMATED EMPLOYEES	CITY
El Dupont de Nemours Co, Inc.	600	New Johnsonville
Humphreys Co School District	510	Waverly
Tennessee Valley Authority Inc	150	New Johnsonville
Hood Container Corporation	200	Waverly
Three Rivers Medical Advisors, Inc.	151	Waverly
Walmart Inc.	150	Waverly
Humphreys County	115	Waverly
Humphreys County Nursing Home Inc	100	Waverly
Matheson Tri-Gas, Inc.	100	Waverly
Prince Erachem Inc.	96	New Johnsonville

## Appendix C

GIVE GRANT BUDGET				
GIVE Program Competitive Grant				
The grant budget line-item amounts below shall be applicable only to expenses incurred during the following				
Applicable Period:		BEGIN: October 24, 2019	END: April 25, 2022	
POLICY 03 Object Line-item Reference	EXPENSE OBJECT LINE-ITEM CATEGORY <sup>1</sup>	GRANT CONTRACT	GRANTEE PARTICIPATION	TOTAL PROJECT
1, 2	Salaries, Benefits & Taxes	102,600.00	0.00	102,600.00
4, 15	<sup>2</sup> Professional Fee, Grant & Award	0.00	0.00	0.00
5, 6, 7, 8, 9, 10	Supplies, Telephone, Postage & Shipping, Occupancy, Equipment Rental & Maintenance, Printing & Publications	6,420.00	0.00	6,420.00
11, 12	Travel, Conferences & Meetings	8600.00	0.00	8,600.00
13	<sup>2</sup> Interest	0.00	0.00	0.00
14	Insurance	0.00	0.00	0.00
16	Specific Assistance To Individuals	13,920.00	0.00	13,920.00
17	<sup>2</sup> Depreciation	0.00	0.00	0.00
18	<sup>2</sup> Other Non-Personnel	0.00	0.00	0.00
20	<sup>2</sup> Capital Purchase	594,000.00	0.00	594,000.00
22	Indirect Cost	58,043.20	0.00	58,043.20
24	In-Kind Expense	0.00	0.00	0.00
25	GRAND TOTAL	783,583.20		783,583.20

## Appendix D

### GIVE Grant Budget Line Item Details

The budget plan for the IPCT proposal includes three major items that enhance and expand existing IPCT and Welding programming to develop new locations for academic programs that creates a new pathway from secondary to post-secondary education and culminates in post-secondary certificates, degrees and industry certification that fulfills a critical and demonstrable local and regional workforce need. This grant project will also enhance and expand existing and new Work-Based learning opportunities for youth and adults that are enrolled in the array of program options that include co-ops, apprenticeships and industry specific courses and learning experiences. Addition of the NCCER nationally recognized industry approved curriculum to the IPCT program has been immeasurable to both graduates and employers in the county and region.

All of the equipment purchases and related costs (power and air) requested through this grant will allow NSCC and the Industrial Alliance to ensure that NSCC and Waverly Central High School students are receiving both theoretical and hand-on mastery of required skills need to help close the skills gap identified in this grant proposal area in Humphreys and Perry Counties and the surrounding under-served region of Tennessee. By providing this equipment and curriculum, the student academic achievement perception and exit exam scores should improve and provide industries with the confidence to hire students who are qualified and experienced. The equipment and curriculum will also provide opportunities for SME interaction with the student in a real-world industrial environment without issues of liability or downtime for local

industry. All proposed equipment to be purchased is also applicable for many other skill trades or engineering disciplines should the future need be warranted.

The Instructor will be tasked with oversight and ensuring measurable grant objectives are gathered and evaluated. The grant coordinator will be tasked with expansion of the alliance through addition of industry which will allow more opportunity for work-based learning for the students. This position will aid in the accomplishment of the primary goal of the grant in creating long-term relationships between area employers and NSCC. The work of the Instructor will allow the IPCT program coordinator more time to focus on curriculum matters and laboratory preparation. This partnership of Instructor and IPCT program coordinator will be essential to the success of the grant administration.

Monies will also be set aside for various summer STEM institutes, focused on process technology, and STEM-related involvement of NSCC in the Humphreys County School System at all levels. Science fairs will also be sponsored through this grant proposal for middle and high schools in the service area to increase interest in both STEM and industrial process control. These funds will help meet the grant objective of connecting local industry, NSCC, K-12, and the community concerning process control technology and STEM related disciplines.

Under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, the Office of Management and Budget (OMB) has streamlined guidance. This guidance provides a government-wide framework for grants management. One section of this new guidance is 200.414 that states "if no indirect cost rate is negotiated, use de minimis rate of 8% -- if de minimis rate is used, it must be used for ALL federal awards until a

negotiated rate is approved". This amount would be \$80,000.00 since there is no negotiated indirect rate.

Additionally, apprenticeship pay provided by Chemours Company, Jones Plastic and Engineering, Accurate Energetic Systems, Scepter Incorporated, and ConAgra Foods, will further enhance the project. These participating industries further supports student participation in the project. In program year 2020 there will be approximately 13 apprentices working 1600 hours that year at \$13 dollars per hour. The total combined earned wages will be \$270,400.

#### GRANT BUDGET LINE-ITEM DETAIL

##### Line 1 Salaries and Wages

Full Time Instructor (FTE 1.0)	\$38,000.00 X 2 years	\$76,000.00
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##### Line 2 Employee Benefits and Payroll Taxes

Full Time Instructor	(\$38,000.00 X 35%) X 2 years	\$26,600.00
----------------------	-------------------------------	-------------

\$102,600.00

<u>Total</u>		<u>\$102,600.00</u>
--------------	--	---------------------

##### Line 5 Supplies

Summer STEP Institutes (Notebooks, paper, pens, highlighters, nametags, lanyards)

\$250.00 X 8	\$2,000.00
--------------	------------

Misc. Supplies for Coordinator	\$30.00 X 30	\$900.00
--------------------------------	--------------	----------

##### Line 6 Telephone

Grant Program Usage	\$20 X 30	\$600.00
---------------------	-----------	----------

##### Line 7 Postage and Shipping

Postage	\$20 X 30	\$600.00
---------	-----------	----------

Line 10      Printing and Publications

Program Brochures	\$700 X 2	\$1,400.00
-------------------	-----------	------------

Misc. Program Printing		\$920.00
------------------------	--	----------

<u>Total</u>		<u>\$6,420.00</u>
--------------	--	-------------------

Line 11      Travel

Coordinator Mileage	3846 miles X .52 (current government rate)	
		\$2,000.00

Line 12      Conferences and Meetings

Food and Snacks for Summer STEM Institutes (\$500 X 8)		\$4,000.00
--	--	------------

Food for Alliance luncheons/meetings (\$260 X 10)		\$2,600.00
---	--	------------

<u>Total</u>		<u>\$8,600.00</u>
--------------	--	-------------------

Line 16      Specific Assistance to Individuals

Science Fair Awards for 4-12 grades (\$200, \$100, \$50)

(\$350 X 8 Fairs)	\$2,800.00
-------------------	------------

NCCER national Assessment (\$68 X 90)	\$6,120.00
---------------------------------------	------------

Special Needs Student Access	\$5,000.00
------------------------------	------------

<u>Total</u>	<u>\$13,920.00</u>
--------------	--------------------

Line 20      Capital Purchase

Automation Studio Education 6.3 complete package (NSCC)	\$14,000.00
---	-------------

Simtronics 7.0 upgrade (NSCC)	\$30,000.00
-------------------------------	-------------

Simtronics 16 seats (WCHS)	\$152,000.00
----------------------------	--------------

Simtronics 16 seats (MHS)	\$152,000.00
Welders (MHS)	\$36,000.00
Ventilation upgrade and booths (MHS)	\$75,000.00
Networking (NSCC) (WCHS) (MHS)	\$115,000.00
PLC Trainer	\$20,000.00
<u>Total</u>	<u>\$594,000.00</u>

Line 22 Indirect Expenses

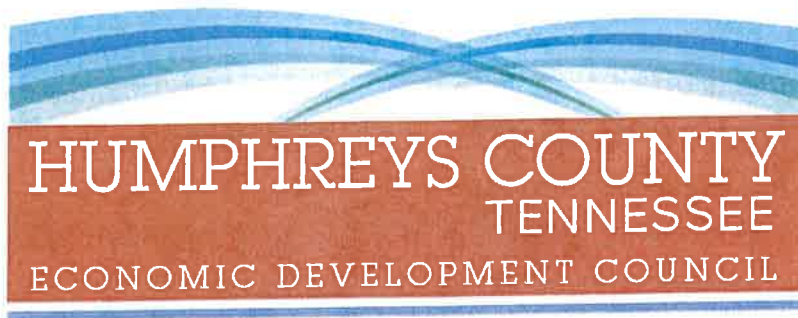
Under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, the Office of Management and Budget (OMB) has streamlined guidance. This guidance provides a government-wide framework for grants management. One section of this new guidance is 200.414 that states "if no indirect cost rate is negotiated, use de minimis rate of 8%

	\$58,043.00
<u>Total</u>	<u>\$58,043.00</u>

<u>Line 25 Total Expenses</u>	<u>\$783,583.20</u>
-------------------------------	---------------------

## Appendix E

### Partner Letters of Support



September 4, 2019

Reference: GIVE Grant Application

To Whom It May Concern:

In 2015, a skills gap analysis was conducted for both the North Tennessee and Northwest Tennessee Workforce Boards regions (Local Workforce Investment Act Areas 8 and 12) using 2012 – 2020 Jobs4TN.gov projections in several occupational areas concentrating on maintenance and plant operations. In both WIA Areas, the analysis revealed a deficit of 2,500 trade and skill workers in the electrical and general maintenance trades were needed to maintain the current industrial employment base.

The data reflected the potential loss of high-skill jobs at long-term regional employers like the Tennessee Valley Authority at New Johnsonville if a ready and skilled workforce is not available in the region. The numbers did not project employee attrition due to retirement or economic growth in the area of emphasis. Chemical process operations were also identified to suffer from the lack of qualified workers in both WIA regions. In Humphreys County alone, the Chemours Company in New Johnsonville currently estimates that their company will need 200 chemical process operators and an additional 100 maintenance personnel over the next ten years to fulfill expansion and attrition through retirement.

All of the electrical, general maintenance and chemical processing skill areas selected for this analysis are required for local industries in Humphreys and surrounding counties to ensure continuing operations. Further interviews with HR Directors by the Humphreys County Economic Development Council also found that local manufacturers are finding it difficult to find qualified

maintenance personnel at the present time. Advanced manufacturers in Humphreys County including Chemours (DuPont), Prince Corporation and Occidental Chemical currently require that all newly hired maintenance personnel are certified through The National Center for Education and Research (NCCER) curriculum and national assessment.

Humphreys County has been proactive in the area of Workforce Development starting from a grassroots project to build a Center For Higher Education, now occupied by Nashville State, the formation of an Industrial Alliance to the current work based apprenticeship. Please review the Workforce Development History narrative that is attached to this application.

We appreciate the opportunity to participate in this GIVE Application process that can make a difference in preparing a workforce for current and future jobs in Humphreys County and the surrounding area.

Sincerely,



Ted Moore, Executive Director  
Humphreys County Economic Development Council



# JONES PLASTIC & ENGINEERING™

[www.jonesplastic.com](http://www.jonesplastic.com)

470 Benton Industrial Road Camden, TN 38320 Phone: 731-584-1398 Fax: 731-584-1397

August 29, 2019

Mr. Ted Moore  
Humphreys County Economic Development  
301 N. Church Street  
Post Office Box 218  
Waverly, Tennessee 37185

Dear Mr. Moore,

*Jones Plastic & Engineering has been a proud partner with NSCC for the last four years. We have had the pleasure of working with numerous interns, some of which stayed with us and others that moved on to better opportunities. The caliber of knowledge that the interns from NSCC exhibit is exceptional, which is one of the reasons that we appreciate this partnership. We feel that our relationship with the local educators alongside with the economic development officials is a strong one that has been beneficial to all and much needed for the development of talent that is needed in this area.*

*With that said in this area we have a shortage of skilled labor, such as our need for Processors and for Maintenance Technicians. Both of these position have a pay scale that could potentially earn \$23.00 per hour or more. Currently, I have four available positions that need to be filled, one has been open for six months. At this time, I have two positions that in the next year will be vacant due to retirement. It is essential to the growth of our organization to get individuals trained to take those positions. Our relationship with NSCC has been very successful in accomplishing this task.*

*Jones Plastic & Engineering is committed to providing work-based learning to the students of NSCC. In addition, we commit to take four students per year, actually more if they are available.*

Sincerely,

Tonia Brown-Thomason  
Human Resources Manager  
Jones Plastic & Engineering



September 4<sup>th</sup>, 2019

Mr. Ted Moore  
Humphreys County Economic Development  
301 N. Church Street  
Post Office Box 218  
Waverly, Tennessee 37185

Dear Mr. Moore,

I would like to voice my support on behalf of Scepter for the Nashville State programs. In my time at the Scepter Waverly location I have found it difficult to hire skilled technicians, particularly for our maintenance department. The technicians that have proven to be the most successful are those which came from the NSCC programs. The internship program has given these students the ability to learn about the practical application of what they have learned in the classroom, which I believe is key to their success.

Our maintenance team is encouraged to be very diverse in their skillset; mechanical, electrical and fabrication work are part of day-to-day tasks for many of them. Typical maintenance employees currently make \$22 - \$26/hr after their 90 day probationary period. We typically receive many résumés for job postings, but few have the necessary skillset.

We are proud to partner with NSCC because they bring value to our organization. At this point I expect that we will expand on the two interns that we normally have in the near future.

Sincerely,

Craig A. Horan  
Plant Manager  
Scepter Inc. - Waverly



Titanium Technologies  
P.O. Box 219  
New Johnsonville, TN 37134-0219

To Whom It May Concern,

The Chemours Johnsonville Plant strongly supports the expansion proposal for the Waverly campus of Nashville State Community College.

Chemours and Nashville State have been strong partners for decades. The Industrial Process Control Technology and Maintenance Technology programs have been critical for this region of Middle Tennessee and without these programs regional workforce demands would not have been met. The work based learning co-op experiences, added to these programs in 2014 and 2016 respectively, have been recognized state wide as a best practice and with this campus expansion they will only continue to grow and flourish.

These advanced manufacturing degrees are turning out candidates with all of the necessary skills for immediate employment. The Nashville State Waverly campus is one of the few campuses in the entire Southeast region which is an accredited testing center for NCCER (National Center for Construction Education & Research). The candidates are graduating with their 2 year associates degree, their professional certification, and work experience gained through the co-op experience. Graduation rates from this program exceed 70% and job placement exceeds 80%, both well above state wide community college averages.

These programs are currently enrollment limited by shop floor space. The NCCER accreditation limits the number of students per square foot of shop space, thus class sizes are limited to approximately 25 students per class and there is a waiting list. This college expansion will double the shop space, thus doubling the enrollment in the program, and meeting the demand of current and future students.

Much of the recent workforce development focus has been on the more urban areas across the State. This is an outstanding opportunity to provide support to a rural county that has demonstrated the ability to turn ideas into action and create trained, skilled, employable candidates in Advanced Manufacturing and we fully support this program. We are unable to hire fully qualified employees and utilize the NSCC program as our pipeline for the maintenance candidates. We hope that you will see the value in this program and how vitally important it is our company and the surrounding community.

Sincerely,

Kristi Spurgeon  
HR Manager



# Accurate Energetic Systems, LLC

5891 Highway 230 West • McEwen, Tennessee 37101

Telephone: (931)729-4207 • Fax: (931)729-4217

[www.aesys.biz](http://www.aesys.biz)

9/3/19

Mr. Ted Moore  
Humphreys County Economic Development  
301 N. Church Street  
Post Office Box 218  
Waverly, Tennessee 37185

Dear Mr. Moore,

We are writing to confirm our support and commitment to Nashville State Community College-Waverly Campus and their efforts to secure funding for the enhancement of the IPCT program. With a continued shortage of skilled maintenance workers and operators in our local area, there is a great need for these programs. We are pleased to offer our support in principle for NSCC students, participate in career fairs, coaching and discussing the skills and competencies needed within our workforce.

As our facility continues to grow, the demand for a skilled workforce is increasing quicker than we are able to fill positions. We are working on several projects at our facility that will require the need for twenty plus skilled employees over the next five years.

By supporting this program, we feel that opportunities are increased for building the skilled talent needed for the Advanced Manufacturing workforce within our community and the state of Tennessee.

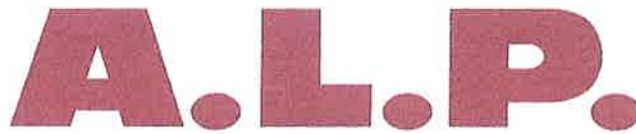
AES is committed to helping solve the demand for skilled workers in our industry. We feel our continued collaboration with Nashville State Community College will reshape the labor market pool by bringing economic prosperity to educated workers, the industry and our community. Please accept this letter as our support for this initiative.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelly Tylek", is written over a horizontal line.

Kelly Tylek  
HR Manager

Accurate Energetic Systems, LLC



One Gum Branch Road | Dickson, TN 37055

Ph: (615) 446-7733 | Fx: (615) 446-3007

September 4, 2019

Mr. Ted Moore  
Humphreys County Economic Development  
301 N. Church Street  
Post Office Box 218  
Waverly, Tennessee 37185

Dear Mr. Moore,

Over the past several years, A.L.P. has been striving to actively participate in any opportunities to educate the community about employment opportunities in the manufacturing sector. We experience the same challenges, as many in manufacturing, of finding skilled labor for some of our technical positions and hope that our efforts will contribute to increased interest in these fields.

A couple of our particularly challenging positions to fill are Injection Molding Process Technicians and Industrial Maintenance Technicians. We have recently placed an Industrial Process Control Technology program graduate in a Process Technician position at our facility and look forward to more opportunities to place graduates in these roles in the future. Salaries in these positions range between \$37,000 to \$55,000 and \$46,000 to \$70,000, respectively. Both positions are well suited for potential growth opportunities within our company. We are not a large facility, having 75 employees and have minimal turnover in these areas, so expected demand is not at a high level currently. When we are faced with a need to fill these positions, it can take several months to find a qualified candidate.

A.L.P. is eager to support programs that provide the educational foundation for our technical positions. We intend to continue our current efforts in educating about manufacturing opportunities and participating in work-based learning opportunities such as career fairs, facility tours, job shadowing, and speaking opportunities.

Sincerely,

Susan Park  
Human Resources Manager  
A.L.P.

## Appendix F

### Specific Articulation Agreement with Perry County CTE

## Specific Articulation Agreement

between



and



### for Prior Learning Assessment

This Specific Articulation Agreement for **Industrial Process Control Technology A.A.S.** establishes the parameters for recognition of demonstrated competency attainment of an incoming Perry County High School Graduate to Nashville State Community College.

Perry County High School Students completing:

**NCCER Core Curriculum Industry Certification &  
OSHA 10 Safety Industry Certification**

will be awarded 3 college credit hours for Nashville State Community College course:

### **IPCT-1300 Industrial Safety**

Students must enroll at Nashville State Community College and present proof of certifications completion at the time of enrollment in order to receive the 3 college credit hours.

The Specific Articulation Agreement shall remain in force and effect until such time as either party gives six months' notice of termination. The termination of the Specific Articulation Agreement shall not be effective until the end of the academic year then in progress.

The Specific Articulation Agreement will be reviewed on a regular basis. If any additions, deletions, amendments or modifications are recommended, the changes will be reduced to writing and sent to both educational institute for approval.

A handwritten signature in black ink that reads "Ginger Cagle".

Ginger Cagle  
CTE/Secondary Supervisory  
Perry County Schools

8/28/19

Date

A handwritten signature in black ink that reads "Dr. Shanna L. Jackson".

Dr. Shanna L. Jackson  
President  
Nashville State Community College

8/28/19

Date

## Appendix G

### Memorandum of Understanding for Project Implementation

## MEMORANDUM OF UNDERSTANDING

I. Parties- The Memorandum of Understanding (hereinafter referred to as MOU) is made and entered into by and between HUMPHREYS COUNTY ECONOMIC DEVELOPMENT COUNCIL; NASHVILLE STATE COMMUNITY COLLEGE; HUMPHREYS COUNTY PUBLIC SCHOOLS CTE PROGRAM; NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD; JONES PLASTIC AND ENGINEERING, LLC; SCEPTER, INC; THE CHEMOURS COMPANY; ACCURATE ENERGETIC SYSTEMS, LLC; AND A.L.P. LIGHTING COMPONENTS, INC.

II. Purpose- The purpose of this MOU is to define the benefits received, roles, and responsibilities of each of the above-mentioned parties in the **Humphreys County Cooperative Manufacturing WBL Program** with initial funding provided by the GIVE Grant.

III. Terms of MOU- The MOU is effective upon the date last signed and executed by the representatives of the parties to this MOU and shall remain in full force and effect for 30 months following this date with an option to extend at that time.

### IV. Benefits, Roles, and Responsibilities

#### A. HUMPHREYS COUNTY ECONOMIC DEVELOPMENT COUNCIL

##### 1. Benefits

- a) Increased visibility in the community
- b) Support existing industry with their workforce needs
- c) Provide new educational opportunities for the area residents

##### 2. Roles

- a) Serve as the lead entity for the GIVE Grant
- b) Work with local industry to ensure their workforce needs are met by the program
- c) Actively work to recruit historically underserved populations to enter the program
- d) Utilize the WBL Toolbox to recruit employers to provide Work-Based Learning opportunities to students in the program

##### 3. Responsibilities

- a) Communication with THEC staff regarding grant activities
- b) Host semi-annual meetings of all parties
- c) Share data with other parties on enrollment and certifications
- d) Adherence to Accountability Plan
- e) Adherence to Sustainability Plan
- f) Attend semi-annual meetings of all parties
- g) Designation of Ted Moore as the central point of contact

#### B. NASHVILLE STATE COMMUNITY COLLEGE – WAVERLY

##### 1. Benefits

- a) Increased visibility in the community with the opportunity to better market programs available to potential students
- b) Potential to increase enrollment in academic programs
- c) Opportunity to award more certifications to students

##### 2. Roles

- a) Serve as the fiscal agent for the GIVE Grant
- b) Provide early post-secondary opportunities and dual credit options to students in the program

- c) Offer Work-Based Learning opportunities to students
    - d) Provide instructors and training staff when available
    - e) Provide options for certifications
    - f) Provide support services to students enrolled in the program
    - g) Provide transportation to Work-Based Learning events and training opportunities when necessary
    - h) Actively work to recruit historically underserved populations to enter the program
  - 3. Responsibilities
    - a) Provide all necessary financial information related to the grant program to THEC
    - b) Share data with other parties on enrollment and certifications
    - c) Adherence to Accountability Plan
    - d) Adherence to Sustainability Plan including proper maintenance of any training equipment received
    - e) Attend semi-annual meetings of all parties
    - f) Designation of Dr. Shanna Jackson as the central point of contact
- C. HUMPHREYS COUNTY PUBLIC SCHOOLS – CTE PROGRAM
- 1. Benefits
    - a) Increased visibility in the community
    - b) Provide new educational opportunities for students
    - c) New training equipment for CTE students
  - 2. Roles
    - a) Provide instructor for the program
    - b) Provide high school credits for student enrolled in the program
    - c) Offer Work-Based Learning opportunities
    - d) Provide teachers and administration the opportunity to tour manufacturing facilities
    - e) Provide instructors and training staff when available
    - f) Provide options for certifications
    - g) Provide support services to students enrolled in the program
    - h) Provide transportation to Work-Based Learning events and training opportunities when necessary
    - i) Provide a Work Ethic program for students
    - j) Actively work to recruit historically underserved populations to enter the program
  - 3. Responsibilities
    - a) Promotion of program to students
    - b) Share data with other parties on enrollment and certifications
    - c) Adherence to Accountability Plan
    - d) Adherence to Sustainability Plan including proper maintenance of any training equipment received
    - e) Attend semi-annual meetings of all parties
    - f) Designation of Lori Dall as the central point of contact
- D. THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD WILL:
- 1. Support the mission of the Humphreys County Cooperative Manufacturing WBL Program

2. Promote the Humphreys County Cooperative Manufacturing WBL Program to businesses and job seekers through the American Job Center
3. Provide a direct connection to the myriad of services offered in the American Job Center system to customers, students and employers participating in the Humphreys County Cooperative Manufacturing WBL Program
4. Co-enroll youth and adult participants who qualify under the Workforce Innovation and Opportunity Act (WIOA) by bringing additional support to individuals to eliminate barriers to training
5. Provide additional support services for qualified WIOA customers to assist in their transition to employment
6. Serve on an advisory panel or other oversight committee for the Humphreys County Cooperative Manufacturing WBL Program as needed<sup>3</sup>
7. Designation of Marla Rye as the central point of contact

E. INDUSTRY 1 – JONES PLASTIC AND ENGINEERING, LLC

1. Benefits
  - a) Increased visibility in the community
  - b) Improved talent-base and educated workforce population to serve as potential employees
2. Roles
  - a) Offer Work-Based Learning opportunities within the WBL Passport Program to students at least four times a year including
    - (1) Attending high school career fairs
    - (2) Presenting career information to K-12 students at the school
    - (3) Hosting facility tours for students
    - (4) Hosting facility tours for K-12 teachers and administrators
    - (5) Providing opportunities for job shadowing for high school students
    - (6) Providing opportunities for internships or co-ops for high school students
  - b) Actively work to recruit historically underserved populations to enter the program
3. Responsibilities
  - a) Share data with other parties on enrollment and certifications
  - b) Adherence to Accountability Plan
  - c) Adherence to Sustainability Plan including proper maintenance of any training equipment received
  - d) Attend semi-annual meetings of all parties
  - e) Designation of Tonia Brown as the central point of contact

F. INDUSTRY 3 – SCEPTER, INC

1. Benefits
  - a) Increased visibility in the community
  - b) Improved talent-base and educated workforce population to serve as potential employees
2. Roles
  - a) Offer Work-Based Learning opportunities within the WBL Passport Program to students at least four times a year including
    - (1) Attending high school career fairs
    - (2) Presenting career information to K-12 students at the school

- (3) Hosting facility tours for students
      - (4) Hosting facility tours for K-12 teachers and administrators
      - (5) Providing opportunities for job shadowing for high school students
      - (6) Providing opportunities for internships or co-ops for high school students
    - b) Actively work to recruit historically underserved populations to enter the program
  - 3. Responsibilities
    - a) Share data with other parties on enrollment and certifications
    - b) Adherence to Accountability Plan
    - c) Adherence to Sustainability Plan including proper maintenance of any training equipment received
    - d) Attend semi-annual meetings of all parties
    - e) Designation of Craig Horan as the central point of contact
- G. INDUSTRY 4 – THE CHEMOURS COMPANY
- 1. Benefits
    - a) Increased visibility in the community
    - b) Improved talent-base and educated workforce population to serve as potential employees
  - 2. Roles
    - a) Offer Work-Based Learning opportunities within the WBL Passport Program to students at least four times a year including
      - (1) Attending high school career fairs
      - (2) Presenting career information to K-12 students at the school
      - (3) Hosting facility tours for students
      - (4) Hosting facility tours for K-12 teachers and administrators
      - (5) Providing opportunities for job shadowing for high school students
      - (6) Providing opportunities for internships or co-ops for high school students
    - b) Actively work to recruit historically underserved populations to enter the program
  - 3. Responsibilities
    - a) Share data with other parties on enrollment and certifications
    - b) Adherence to Accountability Plan
    - c) Adherence to Sustainability Plan including proper maintenance of any training equipment received
    - d) Attend semi-annual meetings of all parties
    - e) Designation of Kristi Spurgeon as the central point of contact
- H. INDUSTRY 5 – ACCURATE ENERGETIC SYSTEMS, LLC
- 1. Benefits
    - a) Increased visibility in the community
    - b) Improved talent-base and educated workforce population to serve as potential employees
  - 2. Roles
    - a) Offer Work-Based Learning opportunities within the WBL Passport Program to students at least four times a year including

- (1) Attending high school career fairs
  - (2) Presenting career information to K-12 students at the school
  - (3) Hosting facility tours for students
  - (4) Hosting facility tours for K-12 teachers and administrators
  - (5) Providing opportunities for job shadowing for high school students
  - (6) Providing opportunities for internships or co-ops for high school students
- b) Actively work to recruit historically underserved populations to enter the program
- 3. Responsibilities
  - a) Share data with other parties on enrollment and certifications
  - b) Adherence to Accountability Plan
  - c) Adherence to Sustainability Plan including proper maintenance of any training equipment received
  - d) Attend semi-annual meetings of all parties
  - e) Designation of Kelly Tyler as the central point of contact

I. INDUSTRY 6 – A.L.P. LIGHTING COMPONENTS, INC

- 1. Benefits
  - a) Increased visibility in the community
  - b) Improved talent-base and educated workforce population to serve as potential employees
- 2. Roles
  - a) Offer Work-Based Learning opportunities within the WBL Passport Program to students at least four times a year including
    - (1) Attending high school career fairs
    - (2) Presenting career information to K-12 students at the school
    - (3) Hosting facility tours for students
    - (4) Hosting facility tours for K-12 teachers and administrators
    - (5) Providing opportunities for job shadowing for high school students
  - b) Actively work to recruit historically underserved populations to enter the program
- 3. Responsibilities
  - a) Share data with other parties on enrollment and certifications
  - b) Adherence to Accountability Plan
  - c) Adherence to Sustainability Plan including proper maintenance of any training equipment received
  - d) Attend semi-annual meetings of all parties
  - e) Designation of Susan Park as the central point of contact

V. This Agreement may be executed in any number of counterparts, each of which together shall be deemed an original, but all of which together shall constitute one and the same instrument. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or ".pdf" signature page were an original thereof.

SIGNATURES AND DATES

HUMPHREYS COUNTY ECONOMIC DEVELOPMENT COUNCIL

Signature Led Moore Title Executive Director Date 9-5-19

NASHVILLE STATE COMMUNITY COLLEGE

Signature Sharon J. Galt Title President Date 9-5-19

HUMPHREYS COUNTY PUBLIC SCHOOLS – CTE PROGRAM

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

JONES PLASTIC AND ENGINEERING, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

SCEPTER, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE CHEMOURS COMPANY

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

ACCURATE ENERGETIC SYSTEMS, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

A.L.P. LIGHTING COMPONENTS, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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##### NASHVILLE STATE COMMUNITY COLLEGE

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### HUMPHREYS COUNTY PUBLIC SCHOOLS – CTE PROGRAM

Signature Lori W Dell Title CTE Director Date 9-5-19

##### THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### JONES PLASTIC AND ENGINEERING, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### SCEPTER, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### THE CHEMOURS COMPANY

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### ACCURATE ENERGETIC SYSTEMS, LLC

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NASHVILLE STATE COMMUNITY COLLEGE

Signature *Sharon J. Gah* Title *President* Date *9-5-19*

HUMPHREYS COUNTY PUBLIC SCHOOLS – CTE PROGRAM

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD

Signature *Mark W. Rye* Title Executive Director Date 9/5/19

JONES PLASTIC AND ENGINEERING, LLC

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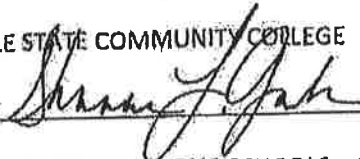
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Signature  Title President Date 9-5-19

HUMPHREYS COUNTY PUBLIC SCHOOLS - CTE PROGRAM

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

JONES PLASTIC AND ENGINEERING, LLC

Signature  Title HR Manager Date 9-5-19


SCEPTER, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE CHEMOURS COMPANY

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

ACCURATE ENERGETIC SYSTEMS, LLC

Signature  Title HR Manager Date 9/5/19

A.L.P. LIGHTING COMPONENTS, INC

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##### JONES PLASTIC AND ENGINEERING, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### SCEPTER, INC

Signature G.S. Smith III Title President Date 9/5/19

##### THE CHEMOURS COMPANY

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### ACCURATE ENERGETIC SYSTEMS, LLC

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##### SCEPTER, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

##### THE CHEMOURS COMPANY

Signature  Title HR Manager Date 9-5-19

##### ACCURATE ENERGETIC SYSTEMS, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

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Signature  Title President Date 9-5-19

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THE NORTHERN MIDDLE TENNESSEE WORKFORCE BOARD

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JONES PLASTIC AND ENGINEERING, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_


SCEPTER, INC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

THE CHEMOURS COMPANY

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

ACCURATE ENERGETIC SYSTEMS, LLC

Signature  Title HR Manager Date 9/5/19

A.L.P. LIGHTING COMPONENTS, INC

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Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

NASHVILLE STATE COMMUNITY COLLEGE

Signature *Sharon J. Galt* Title President Date 9-5-19

HUMPHREYS COUNTY PUBLIC SCHOOLS – CTE PROGRAM

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ACCURATE ENERGETIC SYSTEMS, LLC

Signature \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

A.L.P. LIGHTING COMPONENTS, INC

Signature *Susan Park* Title HR Manager Date 9/5/19

## Appendix H

### Full Economic and Workforce Development History of Humphreys County

Author:

Ted Moore, Executive Director

Humphreys County Economic Development Council

September 3<sup>rd</sup>, 2019

Humphreys County has a strong history of being pro-active in workforce development. This dates to the 1990's. After a large plant closing in 1981-82, unemployment was high (20%) and was consistently unstable, per capita income was down, and job growth was non-existent. An untrained segment of the labor force had resulted in the county. As technological advances increased in the workplace, the gap between the skilled and unskilled had the potential to result in a labor force that could become unemployable.

Given the economic trends affecting the county, the challenge for county leaders at that time was to provide an economic and social environment that would prepare our citizens for the 21<sup>st</sup> century jobs. The Humphreys County Economic Development Council (HCEDC) was formed in 1991 to address these issues. The Council realized a proactive effort to address educational and workforce development approaches was the community's top priority to remain competitive. The Council moved to establish an Industrial/Educational Alliance that would the partnership between industry, job services, Tennessee Department of ECD Industrial Training, Nashville Tech, Columbia State, Tennessee Board of Regents and the Humphreys County EDC to guide future

efforts. This would be the 11<sup>th</sup> alliance of its kind formed in Tennessee at the time with the main goal to identify specific training and educational needs of existing industry and to offer training and educational opportunities to these companies and their employees at a reasonable cost in Humphreys County.

The county received a federal grant to create an Economic Adjustment Plan from the Economic Development Administration. The resulting report indicated that Humphreys County was located the furthest distance from a post-secondary institution of any county in the State. HCEDC leaders lead the effort to create a new center for higher education in the county to address this dire need. In the mid-1990's the community joined together to plan, fund and build a center for higher education. The Humphreys County Economic Development Council led the effort in conjunction with Humphreys County government, the Humphreys County Board of Education, the Humphreys County Manufacturers Council and other community leaders and stakeholders. Columbia State Community College that served the region just east of Humphreys County had a strong track record of working with community leadership groups like the Humphreys County coalition to identify local and regional workforce training needs and successfully raise private and public sector funding to construct and equip extended campus sites in similar communities. Columbia State leaders were asked to provide assistance and guidance to Humphreys County leaders because of their recognized success to establish a local higher education center in Lawrenceburg Tennessee. Lawrence County had similar characteristics in workforce training demand and the needs of its employers and citizens as did Humphreys County.

Humphreys County leaders made a formal presentation to the Tennessee Board of Regents and Chancellor Charles Smith approved the request for Columbia State to lead our effort. The request was granted by TBR for Columbia State to provide assistance outside of its designated service delivery area and the partnership was launched between Columbia State, the Tennessee Technology Center in Dickson, HCEDC, and both the Humphreys County Government and Board of Education. Several industries also signed on at the time to assist in the effort and their participation would prove extremely valuable to guide and support construction and program planning.

Columbia State's President designated Special Projects and Research staff to provide project development services to the project committee. After months of community and industry surveys, review of integrated curricula and programming models, benchmarking with other successful integrated higher education sites in rural communities across the country and facility planning, it was determined that Humphreys County would need a 22,500 sq. ft. building at an estimated cost of \$3,387,600 to meet the community's demands and objectives. Humphreys County and HCEDC submitted a second grant application to federal Economic Development Administration for the project and was awarded a \$1,500,000 grant to launch the project. The Humphreys County Executive at that time worked with USDA Rural Development and Meriwether Lewis Electric Cooperative to obtain an additional \$2,000,000 grant and loan to construct and equip the facility. The remaining funding came from local industries, businesses and citizens who believed in the need and saw the opportunity to build what would be called "The Humphreys County Center for Higher Education. Humphreys County leaders also saw the

need to establish the Humphreys County Higher Education Foundation at that time to provide scholarships to future students. This group would also prove to be very beneficial to complete the project and provide the means for youth and adults to attend the center upon its opening.

Construction began in 1998 and the facility opened with much community fanfare. When completed in 1999, Columbia State Community College served as the initial lead institution with the Tennessee Technology Center in Dickson, Nashville State Community College, Austin Peay State University and the University of Tennessee at Martin offering classes and programs of study that directly aligned to Humphreys County's needs and opportunities. The Humphreys County Board of Education was also present in the facility with the re-location of local Adult Basic Education services and staff to the center. In his remarks at the grand opening, Chancellor Smith said this project development process and the new Humphreys County Center for Higher Education was a model for Tennessee's rural communities.

Upon its opening, Nashville State Community College assumed the role as lead institution and now operates multiple programs in the entire facility. Nashville State has been a great partner in providing educational and training services to the community and local industry over the last 19+ years. Their success resulted in a State Economic Development Grant to fund a 10,000 sq. ft. addition to the facility during Governor Phil Bredesen's term to meet the growing demand and need of local industries. As program and enrollment demand grew, this second wing was added that included a fully equipped biology and chemistry lab that allowed Nashville State to offer a larger number of complete degrees and programs. The initial partnerships established with local

industries played a key role at that time in equipping the new wing and programs. Chemours located in New Johnsonville provided full funding to create a state-of-the-art chemistry lab in the new wing that continues to support STEAM and industry specific training.

As the facility and programs grew, local industry leaders worked with Nashville State to establish an Industrial Process Control Technology Program. This program includes PTEC (Process Technology) and MTEC (Maintenance Technology) required by local industry. Students can enroll in this program and apply to be in the coop/apprenticeship program giving them work based training with one of our leading local industries. Students start in their junior year in high school preparing for IPCT with dual credits through the “Pathway to Manufacturing” program.

This workforce development program aligns with TNECD Workforce Development objectives and new GIVE program goals and requirements. Students can participate in a work-based learning program as they complete their education and training in Nashville State industry-aligned programs. With a low unemployment rate, and several of our major industries experiencing employees reaching retirement age, this program has produced a much-needed pipeline to fill these critical industry vacancies.

Other regions of Tennessee have focused on mechatronics and robotics to meet industry demands in major automotive industry clusters in these areas. These types of programs don’t have as much application in Humphreys County and the surrounding rural region due to the types of industries that operate here. Humphreys County higher education and high school

programs instead focus on Process Manufacturing to include welding, pipefitting, millwrights, instrument and electrical technicians and other processing manufacturing competencies.

Student and industry demand exist for a third wing at the Humphreys County for Higher Education to meet growing demands. Two local high schools now want to establish elements of welding, pipefitting, millwrights, instrument and electrical technicians training on their campuses that will allow high students to complete certification during high school that will prepare them to matriculate to Nashville State degree and certificate programs or enter into technical manufacturing jobs upon graduation. Success breeds success in these GIVE related efforts in Humphreys County.

In order to coordinate these local programs and education and workforce placements, faculty and staff at Nashville State Community College, local industry leaders and secondary school system faculty and administrators have joined together to form an Industrial Alliance Board for workforce development. This innovative partnership now allows Industry leaders to manage the Industrial Alliance Board and bring job training requirements for their plants to the table. Key stakeholders represented in this group include the Humphreys County Executive, the Humphreys County Board of Education K-12 Instructional Supervisor, the Director of the Nashville State Community College - Humphreys County Campus, the Technician/Industrial Liaison for the Industrial Process Control Technology, Industry Representatives, the Chairman of the 21<sup>st</sup> Century Educational Foundation and the local HCECD Economic Development Director.

Nashville State leaders at the Humphreys County Campus have done an outstanding job in adjusting curriculum and creating new programs in response to the needs of local industries. Currently there are 5 partner companies participating in Co-op/Apprenticeship work-based learning programs. Upon graduation, high school students are eligible to participate in the program. Each student goes through an interview process with each participating industry before being accepted into the Co-op/Apprenticeship program. While enrolled, students attend Nashville State fulltime during their first semester. Starting the second semester they attend school two days a week and work for one of the participating industries three days a week. The students are paid while working on a salary scale based upon their competency level (school level) and increases come over time. This is a tremendous motivator to continue higher education and work-based competencies while earning increasing wages to support themselves and their families during enrollment. The graduation and placement rates of this program continue to rise, and the word is spreading among youth across the county to do what it takes to successfully participate in the program.

Each student is provided with trade related technical training and industrial hands-on training that produces competency and pride with a marketable technical education. At the end of the program the student has a 2-year Associates Degree, should have the technical knowledge required to gain industry certification (NCCER) and has the work experience needed to demonstrate competency and meet site qualifications. Nashville State expects to place 90% of the incoming students in the coop/apprenticeship program while increasing the number of industries in the program by 60%.

Of course, the participating industries benefit by having a much-needed pipeline of potential employees to address their skilled workforce needs and pipelines. In addition, the industries benefit from having lower skilled (and lower paid) mechanics doing value added work, while learning from experienced, long-term employees. This mentorship alone is an added value for the youth and senior workers in all placement locations. The Humphreys County and surrounding communities benefit by having a workforce development and aligned pipe-line program that increases the skill of local students through not only education, but valuable work experience.

Humphreys County has also embraced and made the most of Tennessee Promise scholarships and resources. Since the program's launch, the college going rates in Humphreys County increased from 59% to 74% in the first year of TN Promise. This was one of the highest rates in the State and the local community is proud of this gain and recognizes it publicly. The college retention rate has been 5% above the State average. Graduation rates of both Nashville State PTEC and MTEC Industrial Process Control Technology Programs have been 85%, far exceeding the State community college average. The availability of higher education and work-based learning opportunities have had a played an important role in these matriculation successes.

The continued growth of this program will require a 10,000 sq. ft. addition to the building owned by Humphreys County and occupied by Nashville State Community College. The establishment of both high school-based learning labs and programs will help to meet current demands of

students and employers to enroll more youth in industry aligned programs. Funding through the GIVE program will help Humphreys County leaders add this much needed component to their established and successful workforce development, vocational and career program offerings. We appreciate your positive review of this grant request and we invite you for a site visit during your review to learn more from our local leaders and students. If funded is awarded, we promise to put it to good use and fully-fulfill the purpose and objectives of the GIVE Grant in our rural county and region of Tennessee.